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ICF TECHNOLOGY INCORPORATED

MEMORANDUM

TO: Paul La Courreye, U.S. Environmental Protection Agency

FROM: Charles K. So, ICF Technology, Incorporated CS

DATE: November 4, 1988

SUBJECT: Completed Work

THROUGH: Patty Cook, Ecology and Environment, Incorporated

COPY: Marcia Brooks, Ecology and Environment, Incorporated

This list is for the attached completed:

____ PA(s)

____ PA Review(s)

____ PA Reassessment(s)

__1__ Reevaluation(s)

PA-2 completed 11.17.88 PaL

Site Name	EPA I.D.#	City	Recommendation	State Lead
Pacific Refining Company	CAT000617407	Hercules, California	NFRAP	RWQCB

S

EVT → A, PA2, N, S, 11/18/88
SI1 → V, N

6410

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

2901

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

TO: Paul La Courreye, U.S. Environmental Protection Agency
Region IX, Site Screening Coordinator

FROM: Charles K. So, ICF Technology, Incorporated CS

DATE: November 4, 1988

SUBJECT: Reevaluation of Pacific Refining Company, Hercules, Contra Costa County, California

TDD#: F9-8809-044

EPA ID#: CAT000617407

THROUGH: Sandy Szabat, Ecology and Environment, Incorporated

COPY: FIT Master File
Patty Cook, Ecology and Environment, Incorporated
Don Plain, California Department of Health Services
Roger James, California Regional Water Quality Control Board, San Francisco Bay Region
Romena Jonas, Jacobs Engineering

Introduction

Under Technical Directive Document number F9-8709-019, Ecology and Environment, Inc.'s Field Investigation Team (FIT) was tasked to reassess all Preliminary Assessments (PAs) in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) with "active" or "pending" status according to guidelines established to implement the Superfund Amendments and Reauthorization Act (SARA). During the course of this reassessment process, PAs were identified that contained insufficient information to allow an accurate reassessment. FIT has been subsequently directed to reevaluate and upgrade these PAs as necessary to allow an accurate response determination to be made.

The strategy for determination of further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is based solely on each site's potential to achieve a score high enough on the Hazard Ranking System (HRS) for inclusion on the National Priorities List (NPL). This strategy is intended to identify those sites posing the highest relative risk to human health or the environment. All other sites needing remedial or enforcement follow-up will be referred to the States or an appropriate Federal agency.

This site was evaluated primarily using the original HRS model. Additionally, this site was also evaluated for its potential to score using the draft revised HRS model. The following is a summary of FIT's findings with regard to this site.

Summary

Pacific Refining Company has operated since 1976 a refinery in the City of Hercules, Contra Costa County, California (Longitude: 122/16/10; Latitude: 38/01/25) (6). Gasoline, diesel fuel, distillate oils, propane and butane gases are produced from raw crude oil on site. The facility currently contains a wastewater treatment system which consists of a number of tanks and a biological treatment pond. The exact number and the types of tanks are not indicated in the available file information. Wastes generated from on-site operations include heat exchanger bundle cleaning and oil/water separator sludges and tank bottoms containing lead (1). The total estimated quantity of these wastes generated is 540 tons per year (6). The waste sludges are temporarily stored in tanks and are eventually transported off to a permitted Class I disposal site. Information regarding the names of the transporter and the disposal location is not available. Treated wastewater is discharged directly into San Pablo Bay under an NPDES permit (1).

The California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) identified the refinery as a potential hazardous waste site in September 1979 because of information indicated that on-site surface impoundments might exist. Since 1979, RWQCB has performed inspections at the facility under the NPDES requirements and noted violations including maintaining adequate pH and toxicity levels of the effluent from the wastewater treatment pond in one of the site visits. Pacific Refining Company is presently self-monitoring the wastewater discharge at the refinery under the supervision of RWQCB. The refinery is listed in the Resource Conservation and Recovery Act database as a large quantity generator (2).

Lying beneath the site is primarily clay loam soil (3). Ground water is found as high as 5 feet below ground surface. Due to salt water intrusion, the ground water in the Hercules area is brackish and non-potable. Municipal drinking water supply for the City of Hercules comes from the East Bay Municipal Utility District, which obtains potable surface water from the distant Mokelumne watershed (4, 5). Located less than 1,000 feet west of the site is San Pablo Bay. Beneficial uses of the bay include water contact and non-contact recreation, fish migration and spawning, wildlife habitat, preservation of rare and endangered species, commercial fishing (4). The surface water body is not used for drinking or irrigation water supply.

Recommendations

1) EPA

Based on a preliminary screening of the HRS factors, the site does not appear to be eligible for inclusion on the National Priorities List for the following reasons:

- zero ground-water target population; and
- low surface water target population.

Therefore, FIT recommends no further action under CERCLA at the Pacific Refining Company site.

2) State or Other Agency

Copies of this reevaluation will be sent to the California Department of Health Services and the California Regional Water Quality Control Board, San Francisco Bay Region for consideration.

EPA Concurrence	Initial	Date
No Further Action Under CERCLA	[signature]	11.17.88
High Priority SSI		
Medium Priority SSI		

References

1. Ricks, S.D., Refinery Manager, Pacific Refining Company to Philip L. Bobel, Chief of Waste Programs Branch, U.S. Environmental Protection Agency, Region IX. Letter, January 6, 1986.

2. Resource Conservation and Recovery Act database, dated June 21, 1988.

3. U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Contra Costa County, California.

4. Dreessen, Richard, S., ICF Technology, Incorporated. Preliminary Assessment of Hercules Powder Company, Hercules, California, June 4, 1987.

5. East Bay Municipal Utility District. Urban Water Management Plan. November 1985.

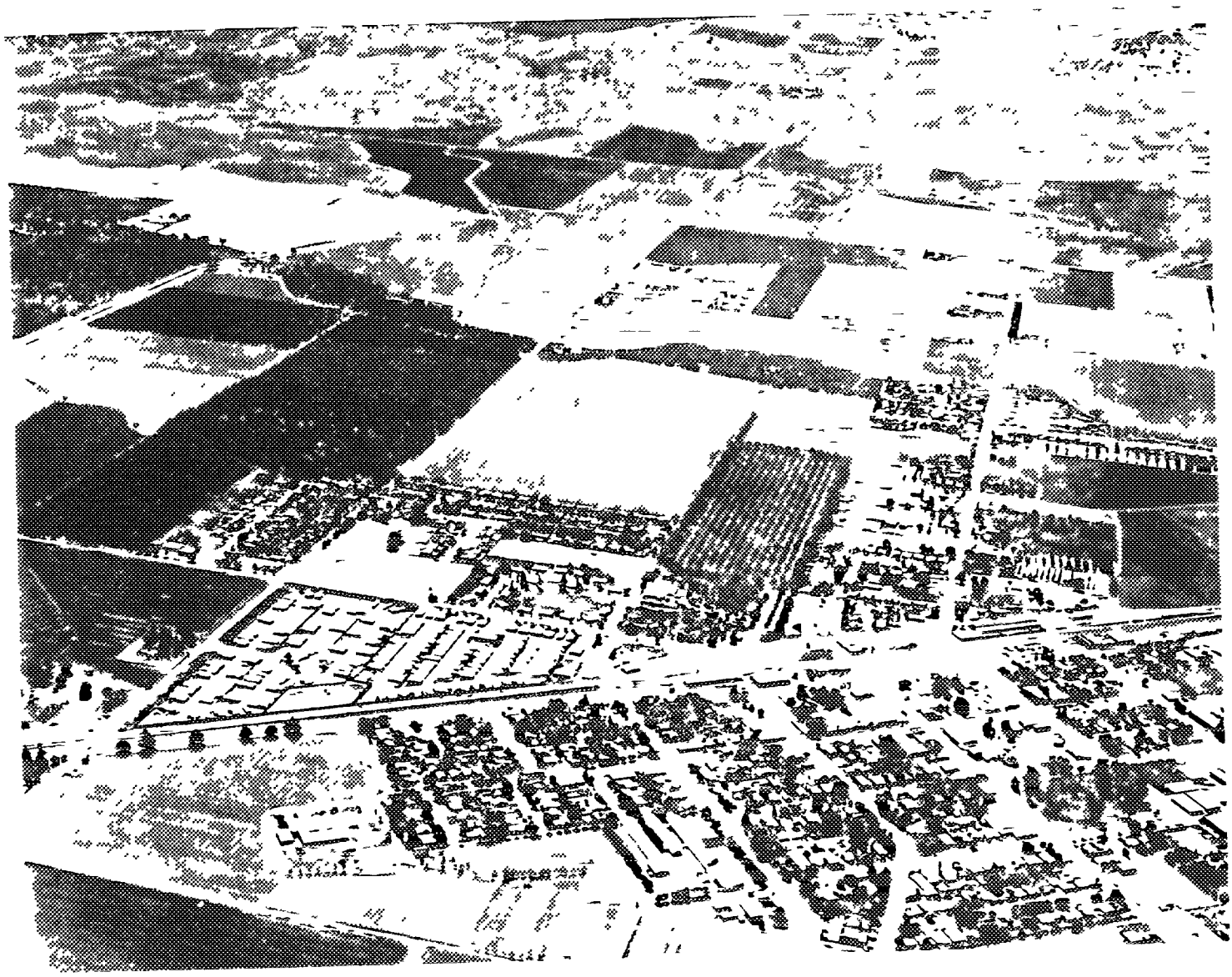
6. Pacific Refining Company. Hazardous Waste Permit Application, EPA Form 3510-3. November 19, 1980.

(AMENDED)

(415) 672-4577

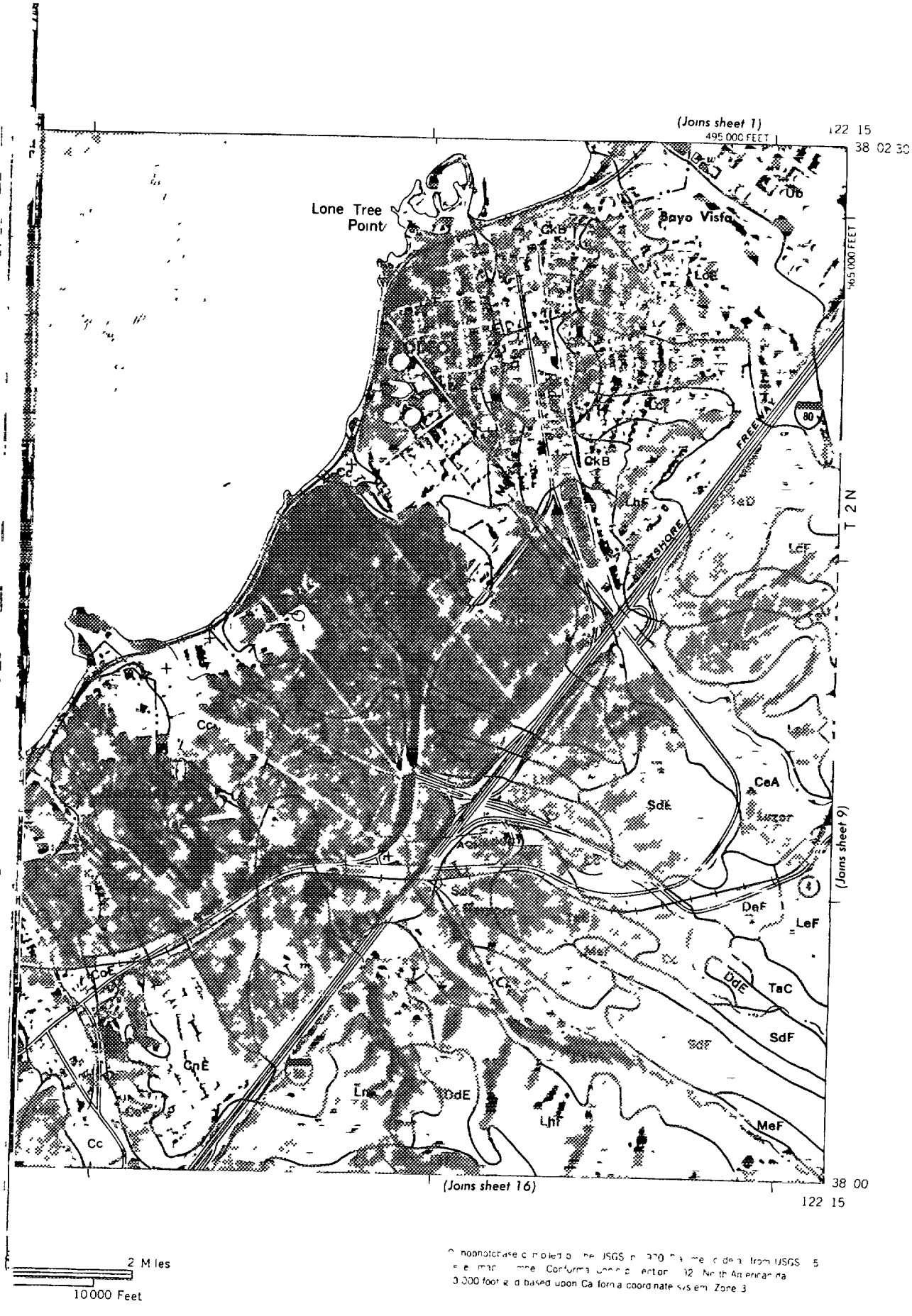
SOIL SURVEY OF

Contra Costa County, California



United States Department of Agriculture
Soil Conservation Service
In cooperation with
University of California
Agricultural Experiment Station

Ref. #3



This map is one of a set compiled by the United States Department of Agriculture Soil Conservation Service and the ... Agricultural Experiment Station

Land division corners are approximately positioned on this map

Photobase compiled by the USGS in 1970 ... data from USGS ... map ... Conformal conic projection ... North American datum 10 000 foot grid based upon California coordinate system Zone 3

TABLE 6.—Eng

Soil series and map symbols	Degree and kind of limitations for—				Suitability source
	Local roads and streets	Septic tank filter fields	Dwellings without basement	Sanitary landfill (trench type)	Topso
Solano: Sh, Sk	Severe: high shrink-swell potential; low strength.	Severe: very slow permeability.	Severe: high shrink-swell potential.	Moderate: somewhat poorly drained clay loam and silty clay loam subsoil.	Poor: high changeable sodium.
Sorrento: Sm	Moderate: moderate shrink-swell potential; medium strength.	Severe: moderately slow permeability.	Moderate: moderate shrink-swell potential.	Moderate: silty clay loam.	Fair: silty clay loam.
Sn	Moderate: medium strength; low shrink-swell potential below depth of 40 inches.	Slight if tile placed below depth of 40 inches.	Moderate: moderate shrink-swell potential.	Severe: silty clay loam over sand; rapid permeability below depth of 40 inches.	Fair: silty clay loam; sand below depth of 40 inches.
Sycamore: So	Severe: poorly drained.	Severe: water table at depth of 3½ to 5 feet; moderately slow permeability.	Moderate: moderate shrink-swell potential; medium strength.	Severe: water table at depth of 3½ to 5 feet.	Fair: silty clay loam.
Sp	Severe: poorly drained; high shrink-swell potential and low strength below depth of 40 inches.	Severe: water table at depth of 3½ to 5 feet; slow permeability below depth of 40 inches.	Severe: high shrink-swell potential and low strength below depth of 40 inches.	Severe: water table at depth of 3½ to 5 feet; clay below depth of 40 inches.	Fair: silty clay loam over clay.
Tierra: TaC, TaD, TaE	Severe: high shrink-swell potential and low strength in subsoil; slope in TaE.	Severe: very slow permeability; slope in TaE.	Severe: high shrink-swell potential; slope in TaE.	Poor: clay subsoil.	Fair for TaC: loam and clay loam over clay. Fair for TaD: loam and clay loam over clay; slope. Poor for TaE: slope.

See footnote at end of table.

ICF CONSULTING ASSOCIATES, INCORPORATED 649 Mission Street, Suite 326, San Francisco, CA 94105 (415) 957-0110

RECOMMENDATIONS FOR FURTHER ACTION

DATE: June 4, 1987

PREPARED BY: Rick Dreessen, ICF Technology, Inc.

SITE: Hercules Powder Company
Hercules Properties, Ltd. Industrial Site
560 Railroad Avenue
Hercules, CA 94547
Contra Costa County

TDD #: F9-8701-76

EPA ID #: CAT080012297

1. Initial FIT Conclusions and Recommendations for Further Action:

a) Site Description:

The Hercules Powder Company (HPC) site is located on San Pablo Bay at 560 Railroad Avenue, Hercules, California (Exhibit 1, Site Location Map). In 1881 California Powder Works (CPW) began operating an explosives-manufacturing facility on this 1300-acre site. E.I. Dupont de Nemours Powder Company (Dupont) took title to the property in 1906. Antitrust laws forced Dupont to dissolve its dynamite holdings in 1912 and HPC purchased the plant. HPC produced explosives on-site until 1965. An ammonia plant was added in 1940. HPC gradually expanded between 1959 to 1966 until its product line included methanol, formaldehyde, urea, ammonia, and *ammonium nitrate.*

In 1968 the company name was changed to Hercules, Inc. (HI) since explosives were no longer produced. In 1976 the site was sold to Valley Nitrogen Producers (VNP), who modernized and expanded the plant for fertilizer production. In November 1979 the plant was shut down due to prolonged labor disputes and existing inventories sold (1). In 1980 Hercules Properties Inc. (HPI), a group of investors, bought 358 acres encompassing the 150-acre industrial complex and surrounding undeveloped acreage. Of the 358 acres, 50 were sold to D&S Investors in 1980 and the remainder to United Financial Operations (UFO) in 1981. UFO retained the 150-acre methanol complex and sold 158 acres to Bio-Rad Laboratories in 1982.

On October 1, 1980 the California Regional Water Quality Control Board (RWQCB) granted a National Pollution Discharge Elimination System (NPDES) permit

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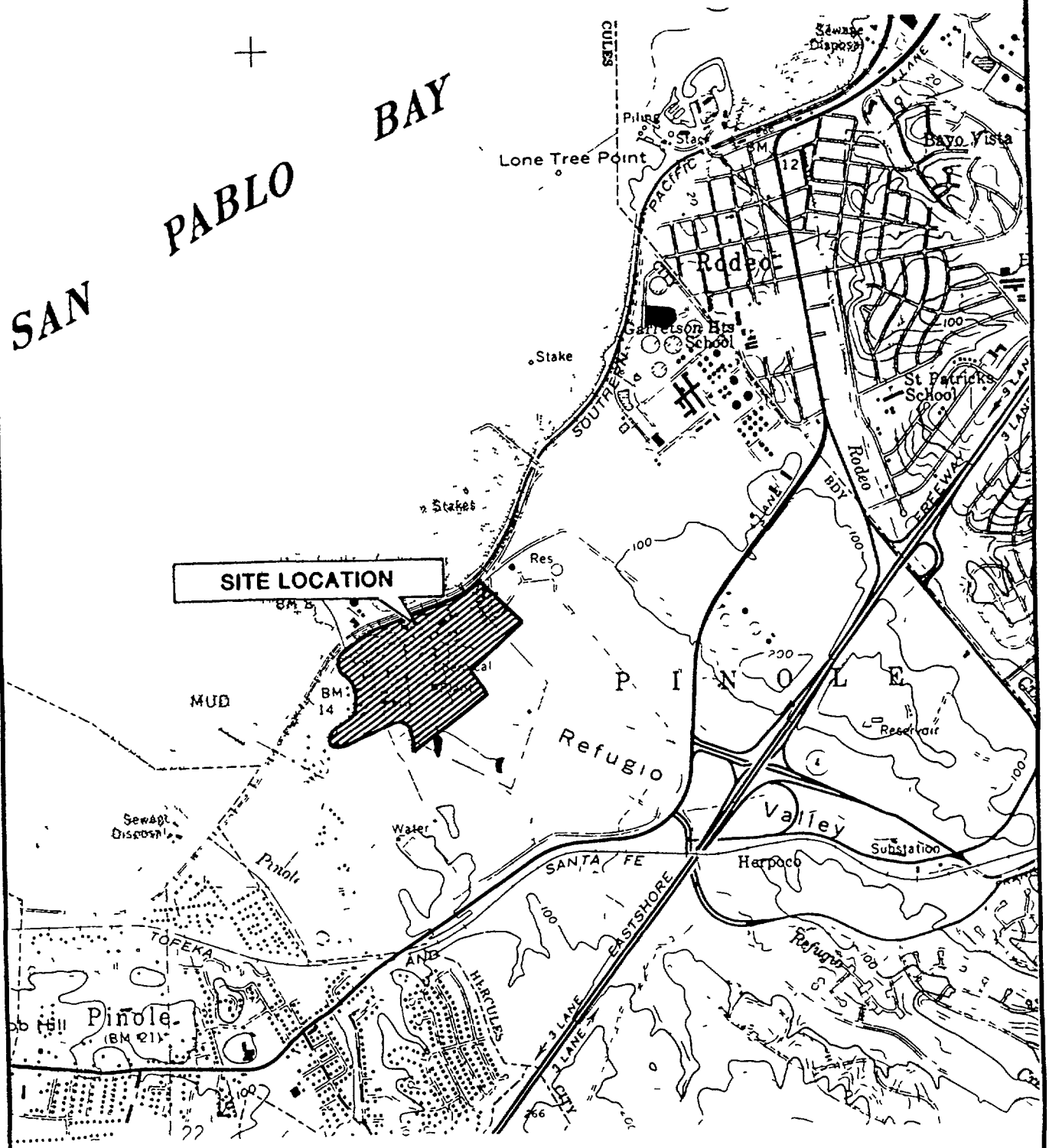


Exhibit 1 Site Location Map

Hercules Powder Company
560 Railroad Ave.
Hercules, California 94547

N

Scale: 1" = 2,000'
0 2,000'

Mare Island Quad.
7.5' Series, 1980

"scores" of drums and bags of unknown materials in "various states of degradation" located in buildings 8252 and 2132, where the juveniles were found (12).

On June 12, 1985 CCCHS issued an Order of Compliance directing HPL to erect a 6 ft. fence, topped with barbed wire, around buildings 8252 and 2732. The fences were to have bilingual hazardous substances warning signs (13). HPL complied with this order June 14, 1985.

There has been no documented release of explosives on-site and as such no concern for potential of fire and/or explosion. Soil sampling conducted in 1986 by BCLA found no evidence of residual DNB, TNT, DNT, or nitroglycerine at the HPL Industrial Site.

Waste Type/Quantity:

On June 11, 1985, DOHS inspected buildings 8252 and 2132. TABLE II (Appendix A) lists materials found, state/form in which they were found, approximate quantities, and the hazardous properties. Building contents were not completely inventoried at this time (12).

On June 17, 1985, CCCHS issued an Order of Compliance requiring HPL to conduct a complete site inventory. This was completed in January 1986 and is summarized in TABLE III (Appendix A).

Metals found in soil samples (below TTLC limits) and ground-water samples (above TTLC limits) have the following Toxicity/Persistence Matrix Values: barium (18), cadmium (18), nickel (18), and selenium (15). Detailed information regarding these sampling efforts is given in the Observed Release Section.

Ground Water:

The HPL site is situated across the mouth of the Refugio Valley which is eroded into the Tertiary Rodeo shale, a "tight and impermeable" formation (16). Numerous borings into the Rodeo shale found the bedrock dry (depth not documented).

Ground water in the area is limited to a perched aquifer contained within 35 ft. of unconsolidated alluvium deposited on top of the Rodeo shale. WESCO reported ground-water depths for August, 1982 to be 5 ft below ground surface (17). The ground-water level is subject to seasonal variations due to the perched nature of the shallow aquifer and relatively small catchment area. Water quality analyses conducted by WESCO indicated that during seasons of low ground-water levels, the potentiometric gradient reverses, allowing salt water intrusion and rendering the ground water brackish and non-potable (17). Generally, though, ground-water flow follows the valley, southeast toward San Pablo Bay. RWQCB personnel have indicated ground water within three miles of the site is not used for domestic purposes due to the low aquifer yield of water bearing formations and the ground water's brackish nature (1).

There are no municipal wells in use within one mile of the site (18). Hercules municipal drinking water is supplied by the East Bay Municipal Utility District

(EBMUD). The extent of small water system and private well use is currently unknown. Net precipitation (November through April) is 5.5 inches (9).

Preliminary HRS evaluation indicates that the ground-water route score will not be high enough for inclusion on the National Priorities List (NPL) due to an apparent lack of target populations.

Surface Water:

The HPL Industrial Site is located on San Pablo Bay (See Exhibit 2, Facility Map). Refugio Creek, an intermittent creek, runs through the property.

According to RWQCB beneficial uses of San Pablo Bay are water contact and non-contact recreation, fish migration and spawning, estuarine habitat, wildlife habitat, preservation of rare and endangered species, commercial and sports fishing, navigation, and industrial service supply. There are no documented beneficial uses made of Refugio Creek.

As stated in the Ground-Water Section, Hercules municipal water is supplied by EBMUD. It is not known whether Refugio Creek, when flowing, is a drinking water source. The one year 24 hour rainfall for the Hercules area is approximately three inches (20).

There has not been a documented observed release via the surface water route. Sediment samples taken from Refugio Creek indicate higher levels of hydrocarbon contamination upstream of the Hercules site than downstream, indicating that the source of this contamination may be upstream of the HSL site (see Observed Release Section) (11). In addition, CERCLA excludes releases of petroleum and petroleum by-products from the definition of a "release". Therefore, these substances are not eligible for HRS scoring (21). For these reasons it is unlikely that the HRS surface water score will be high enough for inclusion on the NPL.

Other Factors/Other Agency Involvement:

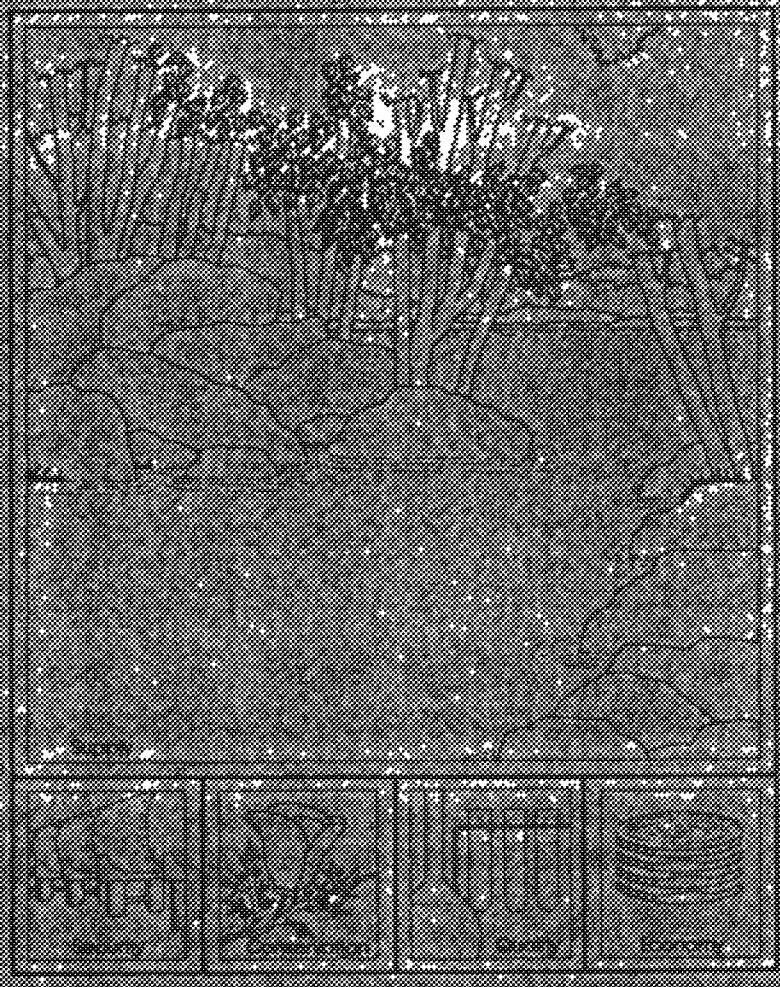
DOHS, RWQCB, CCCHS, and the City of Hercules have been involved with HPL Industrial Site since discovery in May, 1980 by DOHS. Please refer to Appendix A, TABLE I, for chronology of enforcement, mitigation, and projected remedial efforts.

c. Conclusions and Recommendations:

In 1881 explosives manufacturing began at this site. E.I. DuPont de Nemours Powder Company took title to the property in 1906. In 1912, antitrust laws forced DuPont to dissolve its dynamite holdings, and the site was purchased by HPC. In 1976 HPC sold the property to VNP who, due to a prolonged labor dispute, closed the plant and sold the property in 1977. Since 1977 the site has been in the process of subdivision and redevelopment by several realty investor groups. At present the 150 acre Hercules Industrial Site is owned by HPC.

Soil on the HPL Industrial Site in Hercules, California, has been shown to be contaminated with numerous metals below DOHS TTLC's. Shallow ground water beneath the site has been found to contain these contaminants above DOHS TTLC's,

URBAN WATER MANAGEMENT PLAN



November 1985

East Bay Municipal Utility District

EBMUD

REF. #5

Chapter IV
Water Supply Availability and Deficiency

This chapter describes the relationship between EBMUD's water requirements and available supplies, and discusses the risk and magnitude of potential future deficiencies. In May 1985, EBMUD's Board of Directors adopted a policy providing for an annual review of the available supply and a follow-up report by April 15 on the adequacy of the supply for the near- and long-term.

WATER SUPPLY

EBMUD has a legal entitlement to 325 MGD from the Mokelumne River and an additional supply of up to 10 MGD from local runoff into the terminal reservoirs. EBMUD also has a contract with the U.S. Bureau of Reclamation (USBR) for American River water from the Folsom South Canal which was executed in 1970. However, currently there are no facilities for conveying the water to the EBMUD service area.

Figure IV-1 is a location map of EBMUD's major water supply facilities, these facilities include: 1) Pardee and Camanche Reservoirs on the Mokelumne River; 2) three Mokelumne aqueducts extending from Pardee Reservoir to Walnut Creek; and 3) five local terminal reservoirs used to provide an emergency standby supply, reregulate the Mokelumne supply, and capture local runoff. Figure IV-2 shows a schematic diagram of the District's water system. The total projected water supply available to the District in the year 2020 is shown in Table IV-1.

Mokelumne Supply

EBMUD holds two water rights (License 11109 and Permit 10478) which together entitle it to divert up to 325 MGD from the Mokelumne River at the District's Pardee Reservoir and to put this water to use in portions of Alameda and Contra Costa Counties for municipal and industrial purposes. EBMUD also possesses other State licenses and permits related to hydropower development on the Mokelumne River and the appropriation of runoff at the terminal reservoirs in the District's service area.

EBMUD's entitlement to the Mokelumne River is available after the water needs of more senior right-holders have been met.

Water Supplies (MGD) Table IV-1

SOURCE	NORMAL PERIOD	DRY PERIOD 1928–35	CRITICAL PERIOD 1976–77
Mokelumne*	325	249	166
Terminal Reservoirs	10	0	0
USBR Contract	134	67 to 100	67

*2020 Conditions

BAY AREA

AIR QUALITY MANAGEMENT DISTRICT
PERMIT SERVICES DIVISION
939 Ellis Street, San Francisco
California 94109
(415) 771-6000

PLANT DATA P-201

32
*Plant Identification No.**

PACIFIC REFINING COMPANY
Business Name

Other Business Name(s)(if any)

(415) 799-8000
Plant Telephone Number

THE COASTAL CORPORATION
Name of Parent Company (if any)

OLD HIGHWAY 40
Plant Address

HERCULES CALIFORNIA 94547
City State Zip Code

P. O. BOX 68
Mailing Address

HERCULES, CALIFORNIA 94547
City State Zip Code

PLANT AREA (Acres) ____

NUMBER OF EMPLOYEES 100

PRINCIPAL PRODUCT REFINED PETROLEUM PRODUCTS

OWNERSHIP:

(X) *Private*
( ) *Utility*
( ) *Local Government*
( ) *State Government*
( ) *Federal Government*

Please submit a name and address to whom all correspondence can be sent.

STEPHEN D. RICKS / VICE PRESIDENT
Contact Name *Title*

OLD HIGHWAY 40
Street Address

HERCULES CALIFORNIA 94547
City State Zip Code

(415) 799-8000
Telephone Number

Plant Identification Numbers are assigned by the BAAQMD. Leave blank if number is not known.

L. R. NATH; CHIEF ENVIRONMENTAL ENGINEER
Name & Title of person preparing this form
FLUOR DANIEL

Ref. #6

9/84

PERMIT SERVICES SECTION
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, CA 94109
(415) 771-6000

EMISSIONS SUMMARY
P-202

COMPANY NAME PACIFIC REFINING COMPANY PLANT NO. 32

PROJECT TITLE WASTEWATER TREATMENT UPGRADE PROJECT

SOURCE		EMISSION IN LB/HR (ACTUAL)					USAGE		
Description	No.	Particulate	Organic	SO_x	NO_x	CO	HRS/DAY	DAYS/WK	WKS/YR
1 DAF	S1	0	0	0	0	0	24	7	52
2 AERATION TANK	S2	0	0	0	0	0	24	7	52
3 CLARIFIER	S3	0	0	0	0	0	24	7	52
4 SLUDGE TANK	S4	0	0	0	0	0	24	7	52
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

New Construction (X) Demolition ( ) Alteration ( ) Tradeoff ( )
S1, S2, S3 and S4

Note: Give description of any trade-offs proposed. Note that BACT is required for any source (or facility) emitting over 15 lb/hr.

PREPARED BY L. R. NATH, FLUOR DANIEL Phone No. (415)595-6342 Date 12/10/86

7/78

BAY AREA
AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM G
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also. Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).

Form G is not required for any source listed in BAAPCD Regulation 2, Section 1316, provided the source never emits more than 1.0 lb/hr of any contaminant.

1 Business Name: PACIFIC REFINING COMPANY Plant No: 32 (If unknown, leave blank)

2 SIC Number: 2911 Date of Initial Operation: NEW

3 Name or Description: DISSOLVED AIR FLOTATION (DAF) Source No.: S 1

4 Make, Model, and Rated Capacity of Equipment: 200 GALLONS PER MINUTE THROUGHPUT

5 Process Code* (Column A): 5017 Materials Code* (Column B): 300 Usage Unit* (Column C): GALLONS

6 Total throughput, last 12 months: _____ Usage Units* Max operating rate: 12,000 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb _____ % Mar-May _____ % Jun-Aug _____ % Sep-Nov _____ %

8 Typical operating times: 24 hrs/day 7 days/week 52 weeks/year

9 For batch or cyclic processes: _____ min/cycle _____ min. between cycles

10 Exhaust gases from source: (at max. operation) Wet gas flow rate _____ cfm at _____ °F

Approximate water vapor content _____ vol %

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Source is already in operation, completion of table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below,

[ ] Check box if factors apply to emissions after Abatement Device(s).

		EMISSION FACTORS lbs/Usage Unit*	Basis Code (see reverse)
11	Particulate	0	0
12	Organics	0	8
13	Nitrogen Oxides (as NO_2)	0	0
14	Sulfur Dioxide	0	0
15	Carbon Monoxide	0	0
16	Other:		
17	Other:		

18 With regard to air pollutant flow from this source, what source(s), abatement device(s) and/or emission points(s) are immediately downstream?

S	S	S					
A	A	A	P	P	P	P	P

*From Tables G-1 through G-7 (See listing on reverse side)

Person Completing this Form: L. R. NATH: FLUOR DANIEL Date: 12/10/86

6-8-77

BAY AREA
AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM G
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also. Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).

Form G is not required for any source listed in BAAPCD Regulation 2, Section 1316, provided the source never emits more than 1.0 lb/hr of any contaminant.

1 Business Name: PACIFIC REFINING COMPANY Plant No: 32 (If unknown, leave blank)

2 SIC Number: 2911 Date of Initial Operation: NEW

3 Name or Description: AERATION TANK Source No.: S 2

4 Make, Model, and Rated Capacity of Equipment: 200 GALLONS PER MINUTE THROUGHPUT

5 Process Code* (Column A): 5017 Materials Code* (Column B): 300 Usage Unit* (Column C): GALLONS

6 Total throughput, last 12 months: _____ Usage Units* Max operating rate: 12,000 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb _____ % Mar-May _____ % Jun-Aug _____ % Sep-Nov _____ %

8 Typical operating times: 24 hrs/day 7 days/week 52 weeks/year

9 For batch or cyclic processes: _____ min/cycle _____ min. between cycles

10 Exhaust gases from source: (at max. operation) Wet gas flow rate _____ cfm at _____ °F

Approximate water vapor content _____ vol %

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Source is already in operation, completion of table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

[ ] Check box if factors apply to emissions after Abatement Device(s).

		EMISSION FACTORS lbs/Usage Unit*	Basis Code (see reverse)
11	Particulate	0	0
12	Organics	0	8
13	Nitrogen Oxides (as NO_2)	0	0
14	Sulfur Dioxide	0	0
15	Carbon Monoxide	0	0
16	Other:		
17	Other:		

18 With regard to air pollutant flow from this source, what source(s), abatement device(s) and/or emission points(s) are immediately downstream?

S	S	VS					
A	A	A	P	P	P	P	P

*From Tables G-1 through G-7 (See listing on reverse side)

Person Completing this Form: L. R. NATH; FLUOR DANIEL Date: 12/10/86

6-8-77

BAY ARE.
AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM G
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also. Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).

Form G is not required for any source listed in BAAPCD Regulation 2, Section 1316, provided the source never emits more than 1.0 lb/hr of any contaminant.

1 Business Name: PACIFIC REFINING COMPANY Plant No: 32 (If unknown, leave blank)

2 SIC Number: 2911 Date of Initial Operation: NEW

3 Name or Description: CLARIFIER Source No.: S 3

4 Make, Model, and Rated Capacity of Equipment: 200 GALLONS PER MINUTE THROUGHPUT

5 Process Code* (Column A): 5017 Materials Code* (Column B): 300 Usage Unit* (Column C): GALLONS

6 Total throughput, last 12 months: _____ Usage Units* Max operating rate: 12,000 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb _____ % Mar-May _____ % Jun-Aug _____ % Sep-Nov _____ %

8 Typical operating times: 24 hrs/day 7 days/week 52 weeks/year

9 For batch or cyclic processes: _____ min/cycle _____ min. between cycles

10 Exhaust gases from source: (at max. operation) Wet gas flow rate _____ cfm at _____ °F

Approximate water vapor content _____ vol %

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an AUTHORITY TO CONSTRUCT, completion of the following table is mandatory. If not, and the Source is already in operation, completion of table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

[ ] Check box if factors apply to emissions after Abatement Device(s).

		EMISSION FACTORS lbs/Usage Unit*	Basis Code (see reverse)
11	Particulate	0	0
12	Organics	0	8
13	Nitrogen Oxides (as NO_2)	0	0
14	Sulfur Dioxide	0	0
15	Carbon Monoxide	0	0
16	Other:		
17	Other:		

18 With regard to air pollutant flow from this source, what source(s), abatement device(s) and/or emission points(s) are immediately downstream?

S	S	S					
A	A	A	P	P	P	P	P

*From Tables G-1 through G-7 (See listing on reverse side)

Person Completing this Form: L. R. NATH; FLUOR DANIEL Date: 12/10/86

6-8-77

BAY AREA
AIR QUALITY MANAGEMENT DISTRICT
939 Ellis Street, San Francisco, CA 94109 (415) 771-6000

DATA FORM G
General Air Pollution Source

If in addition to the general process described hereon this source burns fuel, then complete Form C also. Use specific forms if applicable: Form T (organic tankage, loading), Form S (surface coating, solvent use).

Form G is not required for any source listed in BAAPCD Regulation 2, Section 1316, provided the source never emits more than 1.0 lb/hr of any contaminant.

1 Business Name: PACIFIC REFINING COMPANY Plant No: 32 (If unknown, leave blank)

2 SIC Number: 2911 Date of Initial Operation: NEW

3 Name or Description: SLUDGE HOLDING TANK Source No.: S 4

4 Make, Model, and Rated Capacity of Equipment: 5,000 GALLONS PER WEEK

5 Process Code* (Column A): 5017 Materials Code* (Column B): 300 Usage Unit* (Column C): GALLONS

6 Total throughput, last 12 months: _____ Usage Units* Max operating rate: 30 Usage Units*/hr

7 Typical % of total throughput: Dec-Feb _____ % Mar-May _____ % Jun-Aug _____ % Sep-Nov _____ %

8 Typical operating times: 8 hrs/day 1 days/week _____ weeks/year

9 For batch or cyclic processes: _____ min/cycle _____ min. between cycles

10 Exhaust gases from source: (at max. operation) Wet gas flow rate _____ cfm at _____ °F

Approximate water vapor content _____ vol %

EMISSION FACTORS (at maximum operating rate)

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16	Other:		
17	Other:		

18 With regard to air pollutant flow from this source, what source(s), abatement device(s) and/or emission points(s) are immediately downstream?

A	A	A	P	P	P	P	P
S	S	S					

*From Tables G-1 through G-7 (See listing on reverse side)

Person Completing this Form: L. R. NATH; FLUOR DANIEL Date: 12/10/86

6-8-77

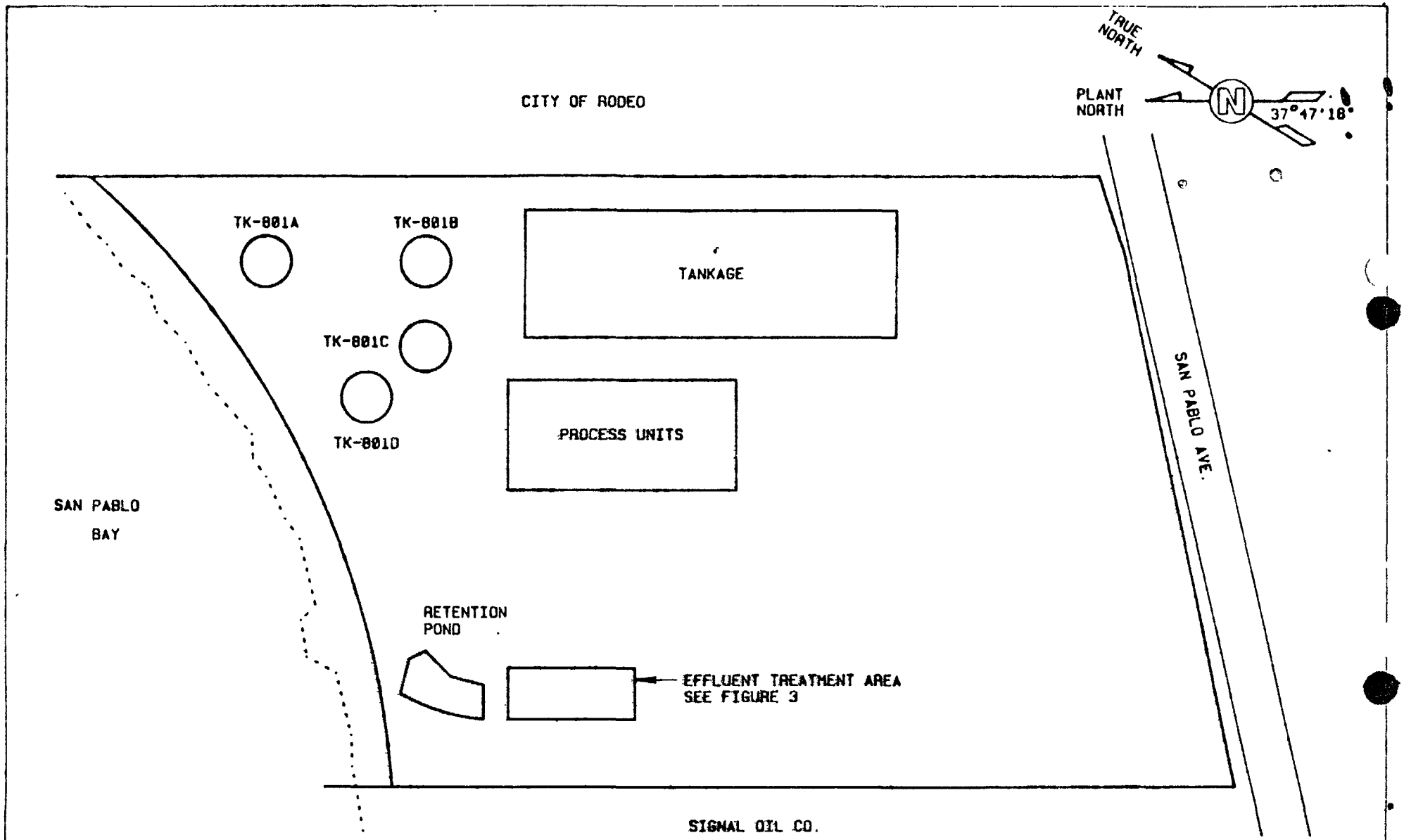

FIGURE 2.
PACIFIC REFINING CO. - GENERAL PLOT PLAN

FILE: PR-PLOT2 JR 01/24/86